

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: MCA
BRANCH: MCA**

**SEMESTER :V
SESSION: MO/19**

SUBJECT: MCA5001 COMPUTER GRAPHICS

TIME: 3HOURS

FULL MARKS: 60

INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Explain DDA line drawing algorithm. [6]
Q.1(b) Describe scanline polygon fill algorithm. [6]
- Q.2(a) Describe functioning of CRT display. [6]
Q.2(b) Perform scaling transformation of the triangle as expressed by vertices (1,1), (2,3), (3,2) by a factor 2 along X axis and 3 along Y axis keeping the vertex (1,1) fixed. [6]
- Q.3(a) What is parallel projection? Provide a classification of different parallel projections. [6]
Q.3(b) Derive the expression for window to viewport transformation. [6]
- Q.4(a) Describe Bezier spline for curve design. [6]
Q.4(b) Describe various input devices used in computer graphics. [6]
- Q.5(a) Explain RGB color model. [6]
Q.5(b) Describe CIE Chromaticity diagram. [6]
- Q.6(a) Describe Depth sorting method for visible surface determination. [6]
Q.6(b) Describe Area subdivision for visible surface determination. [6]
- Q.7(a) Explain Phong model specular reflection. [6]
Q.7(b) Describe few Antialiasing techniques used in computer graphics. [6]

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